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ABSTRACT

The Microfilm Committee of the International Council on Archives grew out of various international meetings which began in 1966 with a congress on "Archives for Scholarship--Encouraging Greater Ease of Access." Meetings since then have resulted in recommendations that (1) archives and records should be fully microfilmed and widely distributed for use by researchers; (2) member countries should publish lists of their microfilm; and (3) a group should be established to coordinate microfilm technology information, assist archivists, and issue the present bulletin. This first issue includes a history of the organization; recommendations; a list of corresponding members; articles on microfilm programs in Canada, Hungary, the German Federal Republic, India, Spain, and Macedonia (Yugoslavia); a description of the Mormon genealogical records microfilm holdings; a short item on book cradles used during filming; and technical articles on microfilm salvage after floods and the cause and prevention of microfilm blemishes. Summaries in French, Spanish, and German are provided for some of the articles. (LS)

ED 093289

INTERNATIONAL COUNCIL ON ARCHIVES

MICROFILM COMMITTEE

BULLETIN

1

IR 000 771

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BUDAPEST, 1972

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PREFACE

During the last 30 years microfilm has become an essential part of modern archival services all over the world. The beginnings of microfilming in Europe date from the second World War. One of the primary aims of the new technique at that time was to provide safeguards against the possible loss of information by the destruction of records by wars or other calamities. While this use is still an important one, microfilm has been used increasingly for making records available to scholarly researchers.

The archival services of individual countries can utilize the experiences of other countries to establish or extend their own microfilming facilities. This applies with equal force to making the most of technical developments as well as to improvements in specific working methods for the microfilming of archival materials.

When the International Council on Archives created the Microfilm Committee it did so to advance the interests of all member countries. Tasks of first-rate importance for the Committee are to make public some of the results of archival microfilming and to publicize worthwhile techniques and experiences. The BULLETIN is one of the tools designed to realize these aims.

I wish to express my thanks to the authors of the papers published in the BULLETIN and to all those who with a similar unselfishness helped us in our work.

Budapest, April 21, 1972

Dr. Iván BORSA
Secretary, Microfilm Committee
Budapest (Hungary)

THE MICROFILM COMMITTEE OF THE INTERNATIONAL COUNCIL ON ARCHIVES*

The origins of the present Microfilm Committee of the International Council on Archives, which held its first meeting in Paris in April 1970, can be traced back to the meetings of the Extraordinary Congress of the International Council on Archives which were held in Washington, D.C. in May 1966. This Congress had as its theme „Archives for Scholarship – Encouraging Greater Ease of Access". The discussions at Washington led, after much debate, to a number of unanimous and unprecedented recommendations. Some of these called for a general liberalisation of restrictions; others called for the strengthening of microfilming programs by extending them whenever possible to entire series of records, and the formation of a working committee to investigate the most economical and rapid methods for the publication of archival sources and to study the use of microfilm as a means of publication[1]. At the next meeting of the ICA Executive Committee in Munich in the fall of 1966, Ernst Posner, the United States representative, was successful in seeing that a Liberalisation Committee and a Microfilming Committee were established. The work of these two committees as well as of the Extraordinary Congress before it were made possible through grants from the Council on Library Resources Inc.

The Microfilming Committee, provided for at Munich, was a special committee that was to end its activities with its report to the Sixth World Congress of Archivists at Madrid in September 1968. It should not be confused with the present Committee which is a permanent committee established by the Executive Committee of the International Council on Archives after the Madrid Congress.

The work of the first Committee, the Microfilming Committee[2], set the stage for its successor, the Microfilm Committee, by hammering out a firm theoretical foundation as well as practical guidelines for more extensive use by archives of microfilm for publication, preservation, and other purposes. This it did: first, by assembling information on current microfilming and documentary publication practices in archives throughout the world; secondly, by thorough investigations and discussions of the relative merits of microfilm publication, conventional publication, and various combinations thereof; thirdly, by preparing a basic manual, *Microphotography for Archives;* finally, through unanimous agreement on a series of recommendations that were presented to the Madrid Congress[3].

Information on current practices was assembled primarily by means of a detailed questionnaire that elicited 70 responses from 56 countries[4]. It confirmed, as the discussions at the Extraordinary Congress had indicated, that opposition to microfilming, was but a minority view. A few examples – 36 of 50 respondents stated that they would microfilm entire series of records; no country stated that it would not supply another country with microfilm copies of records relating to its own history; and 34 countries stated that they

*This paper is an up-dated version of the paper presented by the author at the Third World Congress on Reprography, London, England, March 1971.

would supply a country with microfilm copies of records relating to the history of other countries while only seven stated that they would not do so. The questionnaire also revealed that the use of 35-mm microfilm by archives was standard; that more and more archives were developing and expanding their microfilming operations, and that the uses of microfilm were apparently increasing. The Central Archives alone of 40 countries were producing 25 million negative microfilm exposures a year while the production of positive microfilm in 26 countries totalled 15 million feet a year! Fourteen countries stated that they were disseminating positive microfilm copies of records in rudimentary or more developed microfilm publication form. The answers also indicated that more than half of the countries responding did not have adequate technical standards for the production *or* preservation of microfilm *nor* did they have adequate guidelines for preparing records for filming or for describing the microfilmed records.

The manual, *Microphotography for Archives,* prepared by the Secretary of the Committee, was designed to provide archivists with basic information concerning the microfilming process. It was hoped that it would assist those archives desiring to produce microfilm that meets archival standards for permanence, that it would provide guidelines for the arrangement, preparation, and description of records to be filmed, that it would aid those interested in using microfilm for publication or preservation purposes, and that it would be of value to archivists interested in the better control, maintenance, and storage of film. The original English edition of 1,200 copies has been out of print for some time but the National Archives of the United States has recently reprinted an edition of 2,000. Copies are now available free. A Spanish edition of 5,000 copies is now in press. A Hungarian edition has also appeared.

Although some members of the Committee, particulary Kaye Lamb of Canada and Robert H. Bahmer of the United States, believed that the best, most effective contribution they could make to the world archival profession would be the manual, others felt that the recommendations that they unanimously adopted and which were unanimously approved as a series of resolutions by the World Congress at Madrid, if properly implemented and followed by a few key archival establishments, would made a lasting contribution to better archival management as well as to scholarly research.

These World Congress resolutions are worth summarising because they are unprecedented as far as the ICA is concerned and because they constitute the frame of reference within which the present Microfilm Committee is operating:

1. The microfilm publication of entire series of records and the making of copies of them available to scholarly researchers is the most effective, rapid and economic way of promoting greater access to archives; materials so filmed should be so identified and described that the film may be radily and easyly used; that whenever possible the explanatory materials should be printed by conventional methods and issued separately, and that microfilm publication work should be regarded as a normal activity of an archives.
2. All member countries are urged to prepare, publish, regularly update and widely disseminate lists of their master negative microfilm unless there are legal restrictions on its use.
3. In filling requests for microfilm copies of straight runs of archival materials archives should retain the master negative and supply the requester with a positive copy.

4. Archives should follow the best technical standards available to assure the production of microfilm of the highest archival quality possible as well as to assure its maintenance and storage under optimum conditions.
5. A small working group of archivists with expert and practical knowledge of microfilming should be created to advise and assist archivists desiring to establish, extend or improve microfilming facilities or operations and to facilitate the spread of new techniques and technological developments, and that this group, at regular intervals, should issue a Bulletin.

Soon after the Madrid Congress the Executive Committee of the ICA established a permanent Microfilm Committee as called for by the Madrid resolutions. The members were appointed by the President of the ICA on nomination of the Committee Chairman[5] As clearance of a few of these had to be obtained from their respective archival administrations the Committee was not finally constituted until April 1969.

One of the major stumbling blocks that prevents the ICA from operating as effectively as it would is the shortage of funds. Foundations are reluctant to support regular activities of the ICA and its committee and UNESCO's resources are limited. This is why dues of ICA member countries are being increased and why institutional as well as individual members of the Society of American Archivists have been invited to join the ICA and pay dues to it. Occasionally UNESCO will make a contract to support some special project but its subventions are not really substantial.

Thus funds were not made available for the Microfilm Committee to hold its first or organisational meeting until the spring of 1970 – just about one year from the time of its constitution. Despite this, the Committee, through correspondence, had been functioning. Advice had been given to numerous central archival administrations as well as to other interested bodies. This assistance has included attempts to help a developing archives in Africa to obtain a reader so that microfilm copies of records relating to its own heritage could be read by researchers and its own staff as well as supplying Australia with data to enable it to produce microfilm meeting archival standards. Other requests have been for information concerning adequate yet inexpensive cameras and readers as well as bookholders, counters, and storage equipment. There have been, literally, hundreds of requests for the publications of the Microfilming Committee. Some of the more sophisticated requests have been for information on the merits and costs of microfilming records for disposal purposes; for data on bibliographical controls for microfilm copies of archival records; for information on the feasibility of using microfiche or ultrafiche for the micropublication of archival materials; and for technical data on how to develop a micropublication program.

Well in advance of our first meeting, the Microfilm Committee sent a circular letter[6] to both member and non-member countries of the ICA informing them of our existence, our membership, the availability of the publications of the predecessor committee, and of our willingness to answer questions or assist in handling problems to the best of our ability. The Circular also stated that:

> The Hungarian National Archives has agreed to publish and distribute a *Bulletin* that our Committee will issue. Those Archives that are beginning new programs or projects, that have lists of records microfilmed, that have worthwhile experiences to relate, or those that have used new approaches or new micro-

filming techniques are requested to report these to our Secretary, Dr Iván Borsa, for inclusion in our *Bulletin.*

As our Committee is small we shall depend, in large part, on the cooperation we receive from Archives that are not represented on the Committee. We should like to have all Archives that use microfilm designating their most knowledgeable person possible to serve as a corresponding member of our Committee. Corresponding members will be requested to report on significant developments or progress in archival microphotography in your country.

This Circular has brought us 42 corresponding members and more will follow. Thus our apparatus now covers at least 48 countries, i.e. the six members plus the 42 corresponding members. To my knowledge this is the first time the technique of having corresponding members on such a wide basis has been used by an ICA Committee.

Our first meeting was held in Paris from 8 to 10 April, 1970 at the Archives Nationales in Paris. In addition to our full membership, a number of observers from the Archives Nationales, the staff of *Archivum,* and UNESCO attended the meeting. There was no difficulty in obtaining the consent of all members to use the framework of the Madrid resolutions as the basis for continuing our activities. This should insulate the Committee against the dangers of becoming a debating society or from reopening questions that have already been decided. Procedures were quickly developed to see that each member could share in the work of the group and lend his own peculiar expertise to answer questions posed of the Committee and yet keep both Secretary and Chairman informed of developments. Each member accepted at least one major assignment – the preparation of a working paper, the assembling of data in some particular area, or the responsibility for some aspect of the preparation of our *Bulletin.* The Committee agreed that there were four areas in which we could not only made a contribution but which we could also begin to work. These were:

1. The problem of how best to preserve microfilm against internal and external agents of destruction, especially in tropical countries. A paper is to be prepared that will not only outline optimum standards but will also spell out whenever feasible alternate measures that are relatively inexpensive.
2. The need on the part of developing countries and of UNESCO for lists of good but relatively inexpensive and essential microfilm equipment, accessories, supplies, and facilitites required for small or mediumsized microfilm or reprographic laboratories as well as personnel training needs.
3. The desirability of establishing close-liaison with the International Standards Organisation, the International Council for Reprography, and the International Microfilm Association.
4. The necessity for assembling working materials that would lead to the issuance of a glossary of reprographic terminology by the ICA as the existing ICA glossary of archival terminology is deficient in this respect.

At the meeting, also, action was taken to arrive at a consensus concerning the contents of as well as the mechanics of preparing our *Bulletin* for publication.

At the end of its sessions the Committee approved a report of its meeting for the ICA which included a series of recommendations concerning microfilming for the UNESCO-Archives consultative group that met in Paris a month after our meeting.

Most of our suggestions were included in this group's recommendations to UNESCO. Our report also included a recommendation to the ICA that our membership be expanded to include one member from a Spanish-speaking country, preferably Spain, and another from the Soviet Union. These additions would provide the Committee with a stronger base and make it more international in character. At its meeting in London in the fall of 1970 the Executive Committee approved this recommendation.

At its meeting in London in March 1971 the Committee was primarily concerned with developing guidelines for minimum equipment needs and standards for microfilm laboratories in developing countries. These guidelines when implemented with lists and descriptions will form the basis of a study for UNESCO. Also of concern was the final contents of the Bulletin and the difficulty of obtaining good, brief contributions; the need for a more complete ICA glossary of archival microfilming terminology; the Committee's interest in having as many corresponding members as possible attend its meetings; and the need for better communication between the ICA Executive Committee and the Microfilm Committee.

During the past few years there have been a number of significant steps taken in archival filming. Among these should be mentioned the beginning of a microfilm publication program in Spain; the continued development and expansion of microfilm publication facilitites in the Public Record Office; the tremendous amount of security filming in West Germany; and increased cooperation between many countries through the use of microfilm.

In conclusion – a prognosis – which contains a few if's – if the Microfilm Committee can maintain the present level of interest in its activities, and there is no indication that it cannot, and if it can obtain a minimum of financial assistance – whether this be from ICA, UNESCO, member countries, foundations, or those industrial concerns, both in the United States and abroad that are oriented toward microfilm or reprography, the Committee can make a sizeable contribution toward making archival materials more accessible so scholarly researchers, and at the very same time assist archives to establish, extend, or improve microfilming facilities and operations.

Albert H. LEISINGER, Jr.
Chairman, Microfilm Committee
Washington, D.C. (U.S.A.)

References

1. The author of this paper was the associate reporter for the third session and prepared a report entitled „Selected aspects of microreproduction in the United States", This report was reprinted in *National Archives Accessions,* No. 60 (December 1967) and in *Archivum,* V16 (1966).

2. This Committee consisted of the Chairman, M. Etienne Sabbe, President of the International Council on Archives and Archivist-General of Belgium; Dr Robert H. Bahmer, Archivist of the United States, the Vice-Chairman; Dr W. Kaye Lamb,

Dominion Archivist, Public Archives of Canada; Dr Iván Borsa, Deputy Director, the Hungarian National Archives; Prof. Dr Th. de Smidt, Historian from Leyden University, The Netherlands; and the Secretary of the Committee, Albert H. Leisinger, Jr, Special Assistant to the Archivist of the United States.

3. See „Sixth International Congress on Archives: Report of the Microfilming Committee", p38, Washington (1968) and *Archivum*, V18 (1968). Also International Council on Archives, Microphotography for Archives (Washington, 1968). Reprints of both of these publications may be obtained from the author.

4. See the Report, Appendix B, pp 19–38.

5. The Committee consists of the Chairman, Albert H. Leisinger, Jr, Special Assistant to the Archivist of the United States; Alfred F. de Ferry, Conservateur-en-Chef, the National Archives of France; Dr Wolfgang Kohte, Archivdirektor, Bundesarchiv Koblenz; Miss Daphne H. Gifford, Principal Assistant Keeper, the Public Record Office; Professor Dr Elio Califano, Director, Division of Photodocumentation and Restoration, Archivi di Stato (Italy); and Dr Iván Borsa, Deputy Director, the National Archives of Hungary, Secretary. An additional member, Miss Carmen Del Crespo Nogueira of Spain, was added in 1970.

6. Circular No. 1 of the Microfilm Committee dated February 1970.

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RECOMMENDATIONS OF THE COMMITTEE

After holding its first meeting in Paris from April 8 to 10, 1970, the Microfilm Committee would like to make ... recommendations to both the Bureau and the Executive Committee of the International Council on Archives.

The recommendations are:

1. That the ICA strongly reaffirm its support of all measures designed to accelerate or expedite the exchanges of microfilm between member states and that particular emphasis be placed on the needs of developing countries and of recently created states for microfilm copies of records essential for an understanding of their heritage. Whenever possible subventions should be granted for these purposes.
2. The Microfilm Committee welcomes the recognition by UNESCO that their mobile microfilm units should have as their primary objective the development of necessary microfilming skills and competence in those archives in which they operate so that after a mobile unit has left the microfilming of records can continue. The Committee is more than willing to publicize the activities of these units in its Bulletin and to publish summary lists of the records microfilmed.
3. That a basic prerequisite for effective assistance to those archives (especially those of developing countries) desiring to begin or to improve microfilming activities is the preparation of basic lists of essential equipment and facilities needed as well as the adequate training of personnel needed to mean this equipment. UNESCO should be urged to lend financial support for this activity. If the ICA can negotiate a contract with UNESCO, the Microfilm Committee could prepare lists of minimum essential equipment for small and medium sized microfilm laboratories as well as standards for the adequate training of personnel. It is our conviction that substantial monetary savings as well as more effective operations would result.

(May 1970)

Albert H. LEISINGER, Jr.
Chairman, Microfilm Committee
International Council on Archives

EXCERPTION
COM/WS/148

UNITED NATIONS EDUCATIONAL,
SCIENTIFIC AND CULTURAL ORGANIZATION

COLLECTIVE CONSULTATION TO DEFINE GUIDELINES FOR
UNESCO'S POLICY ON ARCHIVES DEVELOPMENT

(Unesco House, 12–15 May 1970)

FINAL REPORT

The group of consultants acknowledge with gratitude and values greatly the close co-operation that exists between Unesco and the International Council on Archives (ICA), which is the only international organization in this field, ans wishes that this co-operation should be reinforced and extended.

RECOMMENDATIONS

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A. 5. In particular, Unesco should concern itself with:

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(d) The importance of encouraging enlarged programmes for the microfilming of archives – not only to accelerate and expedite exchange of microfilm – but also to stimulate programmes of arrangement and description of archives as necessary prerequisites to microfilm publication.

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(The International Advisory Committee on Documentation, Libraries and Archives of UNESCO „fully supported both the spirit and the recommendations embodied in" „the document COM/WS/148 on Collective Consultation to Define Guidelines for Unesco's Policy on Archives Department". Third session, Paris, 13–16 October 1971 – COM/MD/21.)

THE MICROFILM HOLDINGS IN THE PUBLIC ARCHIVES OF CANADA

Although other departments of the Government of Canada had made use of microfilm during World War II and earlier, microfilm was not a significant part of the acquisitions programme of the Public Archives of Canada until about 1950.

Since then, our use of microfilm for this and other purposes has expanded constantly. Our microfilm acquisitions programme is now very wide in scope and we normally have several separate projects in operation at any given time.

Here in Canada, original materials are frequently borrowed from individuals, other archival institutions, historical societies, business and other organizations, for microfilming on our cameras. Other sources on microfilm are acquired by outright purchase or by exchange of positive microfilm copies with other archival institutions.

Our microfilming programme in foreign countries has been concentrated mainly on records and manuscripts in France and Great Britain, in an effort to gather material relating to the French and British colonial periods in Canadian history. The introduction of microfilm naturally brought great changes to our operations in these two countries. Up to that point, photostatic copies had only been used occasionally and most documents were still being transcribed by hand. The speed and ease with which the camera could copy documents made it possible to remedy the defects of the older copying programmes and to reduce copying costs significantly. Microfilming of documents in France and Great Britain is supervised by the heads of our Paris and London offices, respectively. Such programmes are carefully planned through consultation between these officers and various specialists on our staff in Ottawa.

The Manuscript Division now holds approximately 15,000 negative microfilms and approximately 23,500 positive microfilms (reels). This volume of material makes the development of an effective system of physical control and retrieval absolutely necessary.

The physical control of microfilms in the Manuscript Division is obtained by means of two separate indexes or catalogues – main entry and shelf list.

The main entry catalogue contains a single card for each collection filed in alphabetical order. The main entry card gives the title of the manuscript or record unit (e.g., Grey of Howick Papers), his dates, the reel numbers assigned, the total number of reels involved, the outside dates of the material and a general description of the unit. The shelf list catalogue consists of separate cards for each reel of microfilm held by the Public Archives. These are filed numerically within each of the six classes into which our microfilm holdings are divided. Each card in the shelf list catalogue contains the reel number, an indication of the contents of the reel, and the length of the film on the reel.

If two separate items have been filmed on the same reel, there will be two main entry cards – one for each item – but only one shelf list card listing the content in the order in which it appears on the film.

For fast and efficient location of a specific item both the main entry and shelf list catalogues must be consulted. For example, a student asks for Sir Wilfried Laurier's general correspondence during the year 1900. The main entry card will indicate that the Laurier Papers are contained on 212 reels and that the general correspondence is on reels C–737 to C–919. It will also show the year in which the documents were filmed and the name of the institution holding the originals. After noting the reel numbers, reference is made to the shelf list catalogue to get the exact reel numbers containing the dates requested.

The Public Archives employs a classification system designed to indicate the location of the original documents and to separate published and unpublished materials. Our microfilm holdings are divided into six classes in the following manner:

A – Non official material obtained and filmed in Great Britain (material other than P.R.O.)
B – Material in the Public Record Office
C – Material in the Public Archives of Canada
F – Material obtained and filmed in France
M – Material from North American Sources (other than the Public Archives of Canada)
HB – Hudson's Bay Company (reserved)

The principal advantage derived from such a classification is that special restrictions or procedures applying to particular types of material, such as the Hudson's Bay Company Records or the Public Record Office's holdings, may be consistently and efficiently applied.

When an accession of microfilm is received in the Manuscript Division it is entered in the accession register. The reel numbers assigned represent a continuation of the numerical sequence in the class to which the accession belongs. Thus, if we hold 1785 reels of material from the Public Record Office, the next reel received will be given the number B–1786.

The reel is then examined to obtain the title of the unit, the name of the institution or person from whom the microfilm was obtained, the series, the volumes, inclusive dates, first and last items and page numbers, the length of the film, and to determine whether it is a negative or a positive print. Targets and running heads are checked and information extracted for shelf list notes. When material is acquired from an outside source and neither targets nor running heads have been prepared, the clerk will endeavour to discern the pattern in which the source was arranged for filming and will so describe it in her notes.

When an acquisition is large, with months or years between additions, there are gaps within the coded numerical sequence and it becomes unwieldy. In such cases, notably with the Prime Ministers' Papers and Colonial Office material, microfilm conversion lists are prepared and maintained. These are catalogues containing the source title, complete reference and series or subtitles, with the relevant volume numbers within each series or section. Each series or section title is followed by listings giving volume number, year(s) where applicable, reel number and outside page numbers therein contained. This is then integrated with the finding aid and the whole microfilmed to be used on interlibrary loan. Where very popular sources are involved, we isolate and microfilm the corpplete shelf listing to be included in the finding aid.

After checking and coding the reels, a label is typed giving the reel number, title of the unit, volume number, pages and outside dates. As an expedient to save time and also provide detailed labels for such sources as census records, parish registers, land papers and Colonial Office papers where extracts only have been filmed, we xerox the shelf list cards to serve as labels. Beneath the label, lines are drawn to indicate whether the reel is negative or positive (red for negative, green for positive). A charge-out card is made for each reel which will be signed by borrowers of the film. The accession is then placed in a drawer in a temporary storage cabinet until the archivist responsible for the particular group to which the new film is assigned has examined it and prepared draft copy for a main entry card and an accession notice. The clerk also prepares a microfilm accession control form and sends it to the Division Chief who assigns it to the appropriate section together with a draft copy of the shelf list notes as an indication that the accession is ready for processing by the archivist responsible. If the accession represents an addition to a unit already held, an amendment of the existing main entry card is required rather than draft copy for a new card. In the event that the additional material originates from a different source, the unit remaining the same, a separate microfilm main entry card is drafted to show the different source (i.e., the owner or owners of the original documents and/or the original negatives).

The archivist examines the accession making such notes as are necessary to complete the accession control record and to prepare a descriptive entry for the Preliminary Inventory of the group to which the accession has been assigned. If a finding aid is required and time will permit, the archivist proceeds with this project immediately. The archivist also checks the draft shelf list notes prepared by the clerk.

When the archivist has completed the professional work on the accession, the completed accession control form is sent to the Divison Chief for approval. It is then returned to the clerk in charge of accessions for completion of the necessary clerical work.

One copy of each shelf list card is typed and filed in numerical order in the proper subdivision of the shelf list catalogue. The shelf list cards are then xeroxed in list form and bound for the convenient use of researchers.

As soon as the accession procedure is completed, positive copies of all negative reels are ordered from the Central Microfilm Unit. When these are received they are labelled in the manner described previously and made ready for circulation. The negatives are then placed in a locked room, access to which is restricted to a few senior staff members. Negative films are never loaned for research.

The system described here has proved itself through long and constant use, in the face of steadily expanding microfilm holdings, and an ever-increasing clientele.

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TEN YEARS OF SECURITY FILMING IN THE GERMAN FEDERAL REPUBLIC

Security filming had its origin in the consideration that the archivist, charged with caring for treasures of inestimable value, is also responsible for the protection and preservation of these cultural treasures. Today the most efficient method for security copying is microfilm which preserves the contents as well as the outward appearance of the documents filmed. The most important characteristic of microfilm is its ability to serve as a substitute for the original in case of disaster.

In 1955, ten years after the end of World War II, when the Bundestag discussed the first air raid law „1. Luftschutzgesetz", the preservation of cultural treasures was not considered. These are the basis of a people's intellectual life and its development and progress. A small group, spearhearded by Professor Dr. H. Arnzt of the „Presse und Informationsamt" of the German Federal Republic, then tried to include the protection of cultural treasures in this law. In March 1955 and 1956 two conferences at Bad Honnef promoted microfilming and provided the economic rationale for security filming. In September 1955 the archival advisers of the Länder set up a Phototechnical Committee which was assigned the task of determining what archival materials needed protecting, the cost of protecting them, and also, to procure the necessary funds. At that time Bavaria took the lead in the Committee and proclaimed a minimum program to serve as a basis for meeting the financial and technical needs of security filming during the negotations with the responsible Federal Ministries of the Interior and Finance.

A questionnaire was then sent to the archives to obtain data as to the extent of the archival holdings which should be microfilmed. The archives were classified into three priority groups. The total number of exposures in the first priority group was estimated at 625 million, in the second about 450 million, and in the third about 615 million. For cost calculations only the first priority group was considered. According to the camera capacity and the average production of the photography department of the Hauptstaatsarchiv München and Stuttgart (1–1.3 million exposures per camera per annum), 4,2 million DM for 60 camera teams would be needed annually in order to film the first priority group within ten years. The production obtained by team set up in the Bundesarchiv (1959–60) was decisive in determining the amount of money initially provided by the German Federal Republic in 1961.

The various problems of security filming were worked out by the Phototechnical Committee. The session of April 26, 1960, held at the Hauptstaatsarchiv Stuttgart was of significance, as it established the basis for smooth operations in the years to come. Here the technical procedures, material and archival costs, the advantages and disadvantages of employing staff or outside contractors, and the choice of photographic equipment were dealt with. The training session planned by the Committee was held in the Bundesarchiv Koblenz from June 13–15, 1961. The lectures given by members of the Phototechnical

Committee at Koblenz dealt with their microfilming experiences, the preparation of archives groups for filming, the filming of individual documents, the preparation of oversized documents and modern records for filming, and the enlargement of films by Xerox methods. The types of cameras ordered depended on the experiences of the experts of the individual administrations. The Phototechnical Committee decided to use two 35mm. cameras: the Kontophot-Unimat 61/A of Wedekind–Berlin and the Recordak--Camera of Kodak. The Länder Niedersachsen and Bayern selected Kodak, the Bundesarchiv and the other Länder on Unimat. Most administration chose the Hansen–Gerät processor, and for inspecting the motordriven reader „Document", made by Photocopie. Most archives administrations started their security filming in mid–August 1961, except Nordrhein–Westfalen, which, having had favorable experiences with a private firm decided on contract filming.

Since the spring of 1962 questionnaires have been sent annually to the archives administrations and photographic laboratories by the chairman of the Phototechnical Committee to obtain information regarding their experiences and filming production. The purpose was to coordinate filming, to justify the program, and to provide an exact accounting of the money spent to the „Bundesamt für den zivilen Bevölkerungsschutz". The responses were tabulated by the Phototechnical Committee and recommendations, based on these, were published.

The consultations on security filming which took place during the Archivtag at Emden on September 9, 1963, and during the conferences at Bückeburg (1964), Karslruhe (1965), and Münster (1966) were designed to train staff and to exchange experiences.

As early as 1964 the question of storage of the films made by Federal money became urgent. Suitable places such as subterranean shelters were searched for. The Federal authorities bought an abandoned mine, the Oberrieder Stollen near Freiburg. It is to be hoped that the interior construction can be completed within the next few months. The financing of this program was assured by the „1. Gesetz über Massnahmen zum Schutz der Zivilbevölkerung" (October 9, 1957). The „Bundesamt für den zivilen Bevölkerungsschutz" was responsible for the administration of the Federal money and it paid all staff and material costs for the actual security filming. Up through 1967, through this financing, 26 cameras and 26 film-teams were paid. In 1967 the „Bundesamt für den zivilen Bevölkerungsschutz" demanded a reduction in the number of cameras by eliminating funds for equipment and by reducing funds for staff and material costs as well as by demanding a revised distribution of the funds.

For 1969 only a small amount of money was provided by the „Bundesamt für den zivilen Bevölkerungsschutz" and in 1970 no money at all. The Länder had to fill the gap. The cancellation of funds in the Federal budget was caused by a resolution of the Federal Ministry of the Interior saying that the hitherto existing legal ground for security filming, i.e. paragraphs 2, 29, and 32 of the „Erstes Gesetz über Massnahmen zum Schutz der Zivilbevölkerung" (1957) had become invalid as a result of the ratification of the Hague Convention of April 11, 1967, concerning the protection of cultural treasures in the event of war. Until then the Länder had been acting by Federal order and at Federal expense although the execution was considered to be their own task.

From 1961 through 1965 the production of all security filming teams amounted to 64.5 million exposures. From 1961 to 1968 when the „Bundesamt für den zivilen Bevöl-

kerungsschutz" provided all funds, 119.25 million exposures were produced. Although some filming teams had to continue their work despite reduced funds it was possible to increase the production about 146 million in 1970.

Five Länder archives administrations were especially productive, Niedersachsen (4 cameras) produced 31.8 million, Hessen (4 cameras) produced 19.66 million, Bayern (2 cameras) produced 19 million, Baden–Württemberg (4 cameras) 18.8 million, and Nordrhein–Westfalen, 17.6 million. In all, these five Länder archives administrations produced 73% of the total output. The average number of exposures per day in 1965, for example, was: Bückeburg 6100, München 5330, Marburg 5100, and Wiesbaden 4400. During the following years the output decreased as a result of reductions in staff.

It must be asked if this filming program has been successful and whether it has come up to the expectations of the archival administrations. The filming of the first priority group has not yet been completed. From the very beginning, however, it was clear to all archives that security filming could not be completed in a ten year program as only one quarter of the funds required were appropriated, technical archival personnel were not always available, archival holdings had to be prepared for filming, and there was inadequate space in the state archives for filming and developing laboratories.

The responses to the questionnaires in 1970 estimated the following security filming needs (in million exposures): Niedersachsen 49, Nordrhein–Westfalen 98, Bayern 80, Baden–Württemberg 83, Marburg 44.

It is necessary to ask the question how this work can be completed and if the hitherto existing choice of archival groups and the selecting system should be continued. As early as 1965 Dr. Maurer of Stuttgart, in an article published in *Archivar*, entitled „Wie lange noch Sicherungsverfilmung? " proposed a percentage limitation according to types of archival documents and time periods. Thus he declared worthy of security filming 75% of the charters (1st degree of importance), 30% of the old documents till 1800, and 10% of the modern documents (after 1800).

When the „Bundesamt für den zivilen Bevölkerungsschutz" reduced the budget in 1967, the Audit Committee of the Bundestag for the first time objected to the lack of administrative guidelines for archival filming. The Phototechnical Committee held a discussion at Koblenz on April 23, 1968, before publishing its guidlines. It stated, „The task of security filming of archives is to guarantee the permanent preservation of those archival materials which are of predominant value as a source of knowledge for the history of Europe, of Germany, and of the German Länder. Archival documents to be considered as falling into this category are: archives of the highest state authorities and possibly of central authorities of the Reich and the constituent states as far as they are of primary significance for research in political history." Regarding quantitative selection, the Committee declared, in line with the Stuttgart proposals, „Only about 30% of the archive groups dating back to the time before the end of the ancient regime and about 10% of the archive groups dating back to the time after 1800 can initially be filmed."

Because of the diversity of the archival legacy in the different Länder and because of the individual structure of any archive it is impossible to fix, ex officio, objective characteristics and a documentation value for the selection of archive groups. The selection of archives must always be at the discretion of the archives administration of the Länder.

Although the draft of the regulations gives a useful handle it will always be an expedient. Through systematic security filming principally whole archive groups – according to the principle of provenance – are filmed. For practical, personnel, and economic reasons security filming of archival documents chosen according to certain themes is impossible. In addition, selective methods suffer from great defects with regard to later usage. Therefore total archives groups should be filmed. In my opinion after a catastrophe it is even better to have only some total archives groups than to have many fragmentary archives groups which can no longer guarantee objective research. Let us hope that this will never happen! On the other hand, those who are responsible for the preservation of cultural treasures must see to it that security microfilming continues and they must provide for the necessary money because microfilming is the ideal way to preserve historical sources. Security filming will become a permanent institution of our archives. The archives administrations sooner or later will proceed to include money for photo-technical purposes in their annual budgets. In spite of all counter arguments the archives administrations, perhaps in the very near future, might start preserving certain archives only on microfilm for historical research. The archives are forced, in view of the development of photocopying and of reenlargement methods, to cope with the problems of preserving and storing film as well as with the microdocumentation process itself. The pursuance of security filming and the application of methods for the most rational and useful preservation of archives for the future will be a permanent task of the archivist.

Microfilm will be used as a source of information in the archives as well as in business and thus the securing and preservation of archives by microfilm will become more and more important. The processing and the thorough study of the flood of information reaching the archives may be overcome only by utilizing the possibilities available through the use of microfilm.

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Security Filming from August 1961 until December 1970

	Normal exposures
Berlin	6 513 624
Bremen	4 366 966
Bundesarchiv	6 834 662
Bückeburg	31 778 084
Darmstadt	5 128 104
Hamburg	8 149 608
Karlsruhe	7 518 100
Koblenz	5 819 128
Marburg	6 788 341
München	19 004 557
Nordrhein–Westfalen	17 613 330
Schleswig	4 649 515
Speyer	3 474 888
Stuttgart	11 330 000
Wiesbaden	7 753 121
Total:	146 722 028

THE EXCHANGE OF MICROFILMS BETWEEN ARCHIVES
THE HUNGARIAN EXPERIENCE

The research room of the Hungarian National Archives is much frequented by foreign scholars, most of whom come from neighbouring countries. Many Hungarian historians and archivists, on the other hand, do research work in the archives of neighbouring countries. The specific conditions of the history of this part of Europe oblige the neighbouring countries to fall back on the records of one another in their historical and archival work. During the past 25 years microfilming has become accepted by the archives of the countries of the area. As a matter of course research in a foreign country is generally concluded by microfilming the pertinent records that have been located.

At first, there were two ways the microfilming was done. One, the research workers carried cameras with them and filmed archival materials of interest at the repository where they were found. This was the procedure used by the Hungarian National Archives in 1934 when it started the microfilming of medieval records in Czechoslovakia. The second was to purchase microfilm from the repository in which the records were found.

The equipping of archives with microfilming apparatus has facilitated cooperation between archives in need of each other's materials. When the archives of two countries ordered microfilm from each other on a reciprocal basis the formalities and complicated administrative procedures could be dispensed with.

In this part of Europe archives of two countries, in particular the central archival boards, often enter into agreements for the mutual exchange of microfilms. Such agreements may develop into systematical microfilm exchanges. Practice has shown that such exchanges may become important channels for archival cooperation between the two countries.

Hungary continues to exchange microfilms with several countries, particulary its neighbours. In 1971, 107 280 microfilm exposures were sent abroad and 78 412 were received through microfilm exchanges. Thus the total turnover of the microfilm exchange was 185 692 exposures.

In bilateral agreements concluded with other countries the following points are kept in view:

1. Microfilm exchange is based on reciprocity.
2. Any records open to research and microfilming according to the regulations and conditions prevailing in the respective country may be microfilmed.
3. The parties usually send out their own experts to locate records of interest. No research work is done on behalf of each other.
4. It should be determined whether the exchange covers all the material in a country or some definite part of it, e.g., only records in the National Archives. There are cases when two archives will make an agreement covering the material preserved in the two archives. This may be extended to material found in another archives provided that the archives interested consents.

5. For practical purposes it is important to lay down within the framework of the microfilm exchange agreement that the parties will respond only to written orders. – Scholars sent to a foreign country for research work may place orders on account of a film exchange which subsequently will not be approved by the archives of the country that had delegated the scholar. The stipulation that only written orders will be accepted will prevent such incidents.
6. On film request lists, precise archival designations should be used.
7. Exposures are made on 35 mm., perforated or nonperforated safety film of 30 m (100 ft.) rolls. Camera-negative exposures are mailed.
8. The exposures should be of good quality so that they can be conveniently read in a reader and can be satisfactorily enlarged.
9. The unit of account in a microfilm exchange is an original, camera-negative, exposure.
10. In microfilm exchanges, film copies, sheet films, photographic enlargements, or Xerox copies may be made.
    According to the practice developed, generally 3 positive microfilm exposures are equivalent to 1 camera negative; 1 sheet film to 20 microfilm negative exposures; and 1 Xerox copy to 3 camera negatives. The values of enlargements are determined depending on the size, in each case separately.
11. In case of an established claim, missing, defective or poor quality microfilms shall be replaced by the party which sent them. The number of microfilms missing and replaced, by further exposures will be added to the number of exposures supplied, but replacements for defective or poor-quality exposures cannot be counted as an overage.
12. Agreement should be reached on the ways the parties may use the films received from abroad. The research use of such films is not subject to any restriction, and there is no obstacle to making enlargements or copies of individual exposures. The copying, and marketing of such films is permissible only with the consent of the archives that had sent them. The term „marketing" includes the cession of copies or prints to third institutions, as well as the passing of copies or prints to third countries.
13. The agreement should fix the yearly number of exposures the parties are to deliver.
14. Two solutions have been devised to keep microfilm exchanges current:
    a. At the end of every even year one of the parties makes known the exchange balance according to his records; at the end of every odd year the other party does the same.
    b. The covering or transmittal letter for every batch contains a statement of the number of exposures sent.
    Differences, if any, can be cleared up by correspondence.
15. Experience has shown that the debits and credits of microfilm exchange balances seldom cancel out. One or other of the parties usually has a debit balance. If the differences are not made up for a long time, 4–8 years, the party with the debit balance may settle his accounts by a cash payment.

16. Films are either mailed or if a different method is to be used, the other party should be notified by letter.
17. It is good practice to agree on the language in which correspondence on microfilm exchanges will be conducted. Experience has shown that every archives has an archivist who has a sufficient command of the language of the partner country. In order to spare work with translations and prevent possible mistranslations, the practice that every party writes his letters and request lists in his own mother tongue has proved best.
18. Agreements are usually concluded by stating the term of the agreement. If neither of the parties renounces it until a fixed time before expiration, it is automatically extended for another definite interval of time.

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During twenty odd years of international microfilm exchanges it has become a general practice not to be too particular on recovering debts. There may be cases when a country has been in debt to another country for a few years but usually, for some reason or another, the former creditor becomes a debtor. In other cases, the debt of the opposite part may be so unimportant that it does not mean any financial problem to the creditor. Satisfactory solutions have been found in every case up to now.

Experience shows that microfilm exchanges create close connections between two countries mutually interested in research in the archival materials of the other. Such connections may be furthered and improved by microfilm exchanges instituted on an established basis and by the agreements governing them.

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ARCHIVAL MICROFILMING IN INDIA

The Indian Historical Records Commission was established in 1919 by the Government of India to advise on proper storage, preservation and utilization of its permanent records. Ever since its inception the Commission was aware of the formidable problem posed by the extreme variations of climate under which government records were stored. Apart from the chemical degradation, physical disintegration and biological damage suffered by paper for which scientific repairs and rehabilitation and proper storage could provide remedial measures, the ink on a large number of documents was fading. Restoration of the ink in a few cases can be attempted but the process is time consuming and not free from pitfalls. The situation required urgent and early action and the Commission in its session at Poona in 1938 recommended „introduction of film process for copying old documents in the custody of the Imperial Record Department (known as National Archives since independence) provinces and the Indian States."

Microfilm equipment and raw film stock had to be imported and before steps to implement the recommendations could be taken the Second World War began. Plans for a reprographic laboratory had to be shelved and importation of the equipment was considerably delayed. By 1950 the Department had four microfilm cameras; a Microstat J–7, a Recordak Model D, a Recordak Model C, and a Graflex Photo Record. It had also acquired positive printers, enlargers, readers, and processing equipment mostly from army disposals. Whatever nooks and corners could be spared were converted into camera and dark rooms, and microfilming the valuable and unique documents was begun. The regular archival series in the holdings of the National Archives of India date from 1748 and it was decided to first microfilm the more important series of pre-1857 records. Priority was given to those series in which the documents were in a poor state of preservation or in which the ink was fading as well as to those series which were more in demand for consultation. The originals are unique and too valuable to merit destruction even after microcopies have been prepared. In fact in a phased programme they are being scientifically repaired. By 1960 over 2000 rolls of 35mm microfilm 100 feet each in length, had been produced.

The modest microfilm laboratory conceived primarily to make insurance copies of archival holdings was soon flooded with demands for photocopies from scholars for their researches and from research institutions for supplemental holdings. Curators of manuscript repositories and private owners of the written cultural heritage were also quick to realize the potentialities offered by microfilming and pressed for the microfilming of their collections. The Department's programme of microfilming its own series had to be slowed down considerably or even curtailed to extend the duplication services to such important papers as those of Rabindranath Tagore, Mahatma Gandhi, Dr. Rajindra Prasad, and others. Under the Indian Cooperation Mission's scheme for assisting His Majesty's Government of Nepal in building up its National Archives 217 rolls of negative microfilm and 278 rolls of

positive microfilm were prepared. A program of microfilming rare Urdu, Persian, and Arabic manuscripts in Raza Library, Rampur, was begun and 654 rolls comprising over a million pages have been prepared.

By the nineteen sixties the need for immediate substantial augmentation of the staff and equipment was apparent. Ironically at the same time the existing capacity was often idle for want of raw stock. The country was passing through successive years of an acute shortage of foreign exchange and raw microfilm stock could not be imported. Sound negatives and cine positives (on an acetate base) were used as substitutes. Replacement parts could not be acquired and one camera remained idle for over a year for want of rubber tubing to actuate the pressure plate.

There have been difficulties in servicing and storing microfilms. For instance it has not been possible for the Department to make duplicate copies of all the microfilms prepared or acquired and to use the master negatives only for duplication. Faced with the choice of either denying the use of the material or premitting the use with consequent risk of scratches, wear and tear the Department preferred the latter. Moreover, in the early stages of microfilming no program of residual hypo testing was instituted. Microfilms are stored in a part of the stack area which has been air-conditioned. The air-conditioning plant, however, leaves much to be desired as it suffers frequent break-downs and has no standby unit. Sudden stoppage of the air-conditioning plant particularly in rainy seasons has been found very conducive to rapid fungus growth.

Though no glaring problems have been noticed, it would be difficult to assert that the collection is in ideal state of preservation. It is proposed to institute a program of regular periodic inspections and necessary corrective measures. Priority will also be given to the preparation of positive copies for use by scholars.

It is hoped that during the current Five Year Plan many of the difficulties and inadequacies experienced so far will be overcome. It is proposed to construct an annex to the existing building, preliminary plans for which have been approved. It will have a well-designed and fully air-conditioned reprographic wing commensurate with the present and foreseable needs. One more camera, a Documator–Recorder „DA V", has already been acquired and a mobile camera for field work has been ordered. Processing and reading facilities have been augmented. It is also hoped that it will be possible to get UNESCO assistance under its Participation Programme in the form of equipment such as automatic processing equipment, a Xerox machine, and cameras and raw film to further expand the facilities. The laboratory will thus be able to accelerate its programs, maintain still better standards in production and storage, and render more efficient service to scholars.

Apart from the official records transferred to the Department, the National Archives has also begun the collection of private papers of eminent leaders. For example, the papers of Dadabhai Naoroji, Badruddin Tyabji, Gopal Krishan Gokhle, M. R. Jayakar, V. S. Sirinivasa Shastri, P. S. Sivaswami Aiyar, Madan Mohan Malaviya, C. F. Andrews, and Sampurnanand have been acquired. These papers, consisting of letters, notes, diaries, and newspaper clippings, often throw light on many recent events and supplement the official records. Since in a majority of cases their state of preservation does not permit handling by scholars it is proposed to give priority to microfilming these papers so that the copies may be made available as soon as possible. Where the owners are reluctant to deposit their collection in the Archives or even lend them for microfilming, the Department intends to prepare the microfilm copies in situ with the help of a mobile microfilming unit.

The story of archives microfilming would be incomplete without a reference to the different State Archives. Inadequacy of resources, however, has not permitted them to take up any substantial programs. Only recently states like Rajasthan, Uttar Pradesh, Andhra Pradesh, Jammu, and Kashmir have been able to acquire cameras while others are trying to do so. They are, however, handicapped by a lack of technical know-how and the need for guidance in the selection of equipment. The National Archives has been freely sharing its experience and knowledge with other institutions and is also extending facilities for training their staff. The training, however, has been oriented to the operation and handling of equipment and to elementary aspects of servicing. Although the Indian Standards Institution have issued a ‚Code of Practice for Storage and Use of Microfilms of Permanent Value' (IS: 3130–1965) and a ‚Code of Practice for Processing of Microfilm (Silver Halide)' (IS: 3083–1966) and other standards are being prepared, an awareness of the problems and recent advances in the filed are lacking. With the archives microfilming activities in the country at the „take off stage", there is an obvious need for dissemination of knowledge on the more advanced aspects of production, storage, care, handling, and servicing of microfilms. It is hoped that for this purpose seminars, work-ships, and refresher courses in reprography in general and archival microfilming in particular will be organized. These will also provide opportunities for an exchange of information and the coordination of activities on major projects.

Serious thought has also to be given to the problem of storage of microfilms in the various institutions. Few of them have the necessary resources to install the air-conditioning system required for the permanent preservation of microfilm and they are stored along with the paper documents. Prolonged storage of microfilm under adverse tropical conditions is likely to result in the growth of mold, even if damage to them by insects, dust particles and other causes is prevented. The storage of insurance copies side by side with the originals also defeats the very purpose for which they are prepared. Will regional microfilm storage centres providing ideal controlled conditions and facilities for duplication of negatives when required provide the answer?

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EL SERVICIO NACIONAL DE MICROFILM DE ESPAÑA

Con el nombre de *Archivo Central de „Microfilms"* fué creado por decreto de 14 de julio de 1950. Su finalidad, según reza el preámbulo del decreto, es la de „auxiliar indispensable en la investigación histórica, literaria, científica o artística y para garantizar la seguridad de las colecciones documentales o bibliográficas, poniéndolas a salvo de cualquier contingencia". Según el mismo decreto este Archivo está a cargo del Cuerpo facultativo de Archiveros, Bibliotecarios y Arqueólogos y dependiente de la Dirección General de Archivos y Bibliotecas.

También este decreto establece una sala de estudio donde puedan consultar los ejemplares de este microfilm, el préstamo en las condiciones que establezca un ulterior reglamento, la preservación de los denominados „negativos de seguridad" que no podrán utilizarse, salvo en casos excepcionales, y la publicación de un boletin que dará a conocer los ingresos en microfilm.

Quedan patentes las dos finalidades de dicho Archivo: divulgación de fondos para ayuda a la investigación y preservación de estos mismos por medio del Archivo de seguridad.

Por un periodo de dos años este Archivo solo tuvo realidad en el papel y será un nuevo decreto de 27 de junio de 1952 quien lo vigorizará y dará existencia real. Este decreto supuso la creación en España del *Servicio Nacional de Información documental y bibliográfica* cuya finalidad fué la de formar el „Catálogo del Tesoro Bibliográfico y Documental de España". En el artículo cuarto, entre las competencias de dicho Servicio figura el de „preparar los planes necesarios para que las aportaciones del Servicio Nacional de Microfilm puedan redundar en beneficio de la seguridad de la documentación histórica y de la bibliografía nacional, así como de su fácil consulta por los investigadores".

Por vez primera aparece el nombre de Servicio Nacional de Microfilm y el mismo decreto, en su artículo sexto, establece que el Archivo Central de Microfilm dependerá de la Jefatura de este Servicio de Información Bibliográfica y Documental para los fines propios de cada una de sus secciones, que el mismo decreto establece sean tres: de Información documental, de Información Bibliográfica y de Microfilms.

El Archivo Central de Microfilm queda como hermano menor del Servicio Nacional de Microfilm, con un valor de despósito, estático, frente a este Servicio que inicia con ímpetu su labor. Es natural su relación con el Servicio de Información Bibliográfica y Documental. Dificilmente se puede hacer una labor eficaz de microfilmación si no se conoce previamente el valor y localización de los más importantes fondos. Por lo demás su independencia administrativa ha sido total con respecto a ese otro Servicio, ligándolos solamente el depender ambos de la Dirección General de Archivos y Bibliotecas y ser el Director General de la misma el jefe superior de ambos.

En 1953 se publica el primer número del Boletin informativo. El entonces Director General de Archivos y Bibliotecas don Francisco Sintes Obrador en el prólogo de dicho número expresa ampliamente la finalidad de este Servicio:reproducción fotográfica de los

archivos más valiosos para la historia nacional y de las colecciones o ejemplares bibliográficos que forman parte del tesoro bibliográfico – con lo que se paliará el peligro de su desaparación –, facilitar la investigación histórica, poniendo al alcance de los estudiosos sus reproducciones fotográficas, así como proveer de los elementos necesarios para el intercambio de copias con los organismos similares del extranjero (aquí aparece bien clara la política liberalizadora en el acceso a la documentación, todavía por resolver de un modo general y convincente en nuestros días) y, como fin auxiliar, el dotar a los más importantes archivos y centros dependientes de la Dirección General de Archivos y Bibliotecas de laboratorios fotográficos. Insiste en el propósito manifestado por el decreto de 1950 de microfotografía de seguridad de los grandes archivos estatales, pero añadiendo también la reproducción de otros archivos importantes, no dependientes del Cuerpo, empezando por los de mayor volumen de documentación medieval, así como todo lo perteneciente al patrimonio documental y bibliográfico español que se encuentre actualmente en el extranjero.

La experiencia de estos tres años había demostrado la imposibilidad de establecer una rigurosidad matemática en el planteamiento y desarrollo de esta microfilmación, ni de fijar de antemano un estricto orden de preferencia. Se inicia el trabajo allí donde las circunstancias han sido favorables y naturalmente cuando sus fondos tengan el suficiente interés. Esta es la pauta seguida por el Servicio Nacional de Microfilm durante todos estos años y que se refleja en la serie de boletines que han ido publicándose. Como nota común de la documentación microfilmada figura su carácter medieval. En cuanto a su procedencia pertenecen indiscriminadamente a archivos estatales, municipales y eclesiásticos.

El archivo de microfilm de este Servicio Nacional de Microfilm cuenta en la actualidad con tres millones de micros, unos cien kilómetros de película. En este momento se procede a la duplicación de los negativos en película diazo que permite la obtención directa de un segundo negativo sin necesidad de recurrir a la positivación intermedia.

También, desde este año, el Servicio de Microfilm, y, por lo tanto, su archivo, posee local propio – hasta ahora estuvo alojado en el edificio del Archivo Histórico Nacional – en una planta elevada sobre dicho Archivo. Ello le ha permitido una instalación más idónea y aumentar sus actividades. Efectivamente se han iniciado las publicaciones en microfilm y ya cuenta en su haber con dos títulos: *Documentos de Indias* y *Relaciones diplomáticas entre España y los Estados Unidos*, según fondos de las Secciones de Diversos y Estado del Archivo Histórico Nacional, a las que seguirán, muy probablemente antes de fin de año, las de *Gobierno de Puerto Rico* y *Residencias*.

Junto con la publicación de fuentes manuscritas este Servicio ha emprendido recientemente, en microficha, la de libros y publicaciones periódicas antiguas, imposibles de hallar en el mercado y fundamentales, como fuentes impresas, para la historia de España.

Su laboratorio está dotado de una microfilmadora fija modelo Recordak „Microfile" Camera, MRD–2E, para 35 y 16 mm s.p.

una microfilmadora plana DATAFLASH, de Bell & Howell para 16 mm s.p.

microfilmadoras portátiles JAPONICA HK–35 la reveladora Recordak „Prostar"

una duplicadora Diazo OZALID, mod. 062–1

una ampliadora Durst DA–900

una DAGMAR camera para microficha, la NB printer 404 para jackets 16 mm.

una fotocopiadora 3M, mod. 209 de Minnesota y
diversos „readerprinter" Minnesota, Kodak, Bell & Howell, Geneva y Mullens.

Carmen CRESPO
Servicio Nacional de Microfilm
Madrid (España)

ARCHIVES FÉDÉRALES SUISSES

Les Archives fédérales suisses ne possèdent pas d'atelier de microfilmage. Pour leurs besoins propres, elles ont recours au Laboratoire de l'Office central fédéral des imprimés et du matériel (EDMZ). Cet Office dépend de la Chancellerie fédérale. Pour les besoins des chercheurs, les Archives fédérales s'adressent à des Maisons privées. En revanche, elles exécutent, dans leurs locaux, les xérographies et les photocopies nécessaires.

Oscar GAUYE
directeur adjoint
Archives Fédérales Suisses
Berne (Suisse)

MICROFILMING IN THE ARCHIVES OF MACEDONIA

The development of archival services in Yugoslavia after the Second World War, was accompanied by an increasing use of microfilm. The first initiatives for using microfilm were taken in the fifties during the first meetings of the General Archival Council of Yugoslavia, when the question of microfilming of archival materials relating to the history of the Yugoslav people was taken into consideration.

In the Socialist Republic of Macedonia archival services have existed since April 1st, 1951. During the following year the Archives of Macedonia was joined with the State Film Archives. This fusion and the influx of personnel from the Film Archives gave us the opportunity to become aware of the potential of microfilm in the archival field. Soon after a microfilming laboratory wat established.

The potential that microfilming held for a developing archives, and to a Republic without its own archival documentation of its historical past, was seen. Microfilm was the only way to replace what had been lost. The main groups of documents relating to the historical development of the Macedonian people were either destroyed or removed from Macedonia. In face of this we not only adopted microfilm but also used it extensively.

Assisting us in our work were scholars from Skopje university, who were interested in the history of the Macedonian people and who had carried on research programs in foreign archives. Research was done in archival fonds relating to the history of the Macedonian people. These were mainly the fonds of diplomatic representatives either in Macedonia or in neighboring countries. The research in these fonds carried out by the Macedonian Archives restricted us to thematic research.

In developing our program difficulties had to be taken into consideration such as the working conditions in different countries, the time available for research and the variations in the technique of microfilming in different countries. From the beginning we affirmed that the documents relating to the history of our people should be recorded in their original order within a fond, series, or volume. It was also necessary to microfilm the archival materials in this same order. This was the best way because it not only simplied microfilming, but it also facilitated the use of the microfilm for research and other purposes. The data assembled for the documents to be filmed included the following: country, archive, name and number of fond, identification of the document, year, month, date and place, an abstract of its contents, and the number of pages to be microfilmed.

At the same time that we were microfilming to replace missing records we were also microfilming for security purposes. In the Archives of our Republic mirofilming for reasons of security is carried out in all fonds and collections of great importance. This preservative measure is of great value to Macedonia, especially in view of the necessity for keeping and preserving archival material which has not been destroyed. When we microfilm whole fonds and collections for security purposes we record the general title, the dossier of the fond, the inventory, and then the archival material according to the order

given in the inventory. We also microfilm archival materials kept in public offices and institutions. The possibilities for microfilming in Macedonian institutions are unlimited. In institutions which create archival material a selection of archival material of permanent value has been made. This is distinguished from registrational materials of no value which have been created since the Second World War.

In order to cover more institutions whose archival material should be microfilmed, we try to convince them of the need for the preservation of archival material of permanent value and to get them to regularly microfilm archival material of permanent, administration, and historical interest. The utility of this was shown immediately after the earthquake in Skopje. At that time archival material could not be used, especially after the consequences suffered by the Archives of Macedonia. The building which the Archives of Macedonia was in was ruined, and archival material had to be transferred to some more convenient place. In such circumstances the only possible answer was microfilm. Since the Archives of Macedonia had already microfilmed the archival material of institutions such as the Geological Institute, the Hydrometeorological Service, and the Seismological Station, the necessary documents were found very easily and very quickly and the required number of copies were printed for the purpose of satisfying urgent needs.

In the future, microfilming for security in offices will also be extended to registrative and administrative material. This material, in view of its character and importance, may being treated as archival material of permanent value. In the near future, our attention to this material will increase considerably.

At present the following work has been completed at the Archives of Macedonia: 1.400.000 exposures have been taken for acquisition purposes and 550,000 exposures for security purposes.

In the course of the past few years the security microfilming was conducted on a large scale. The regular year's quota of the microfilming laboratory for one worker was as follows:

Microfilming of archival materials . . . . . 200.000 exposures
Duplicating negative to positive . . . . . 10.000 metres

At the same time each worker had to accomplish a good number of other tasks.

After an increase in the number of workers and devoting the full time one of them to microfilming, the circumstances were changed. At the present time one worker can produce on the average from 900 to 1.000 exposures during a seven hour working day.

As a result of such an intensive work in the course of 1970 300.000 exposures were produced for security purposes, and later in 1971, the same number of exposures were produced. Some of this production was done on over time.

The Archives of Macedonia is supplied with the following equipment:

1. One „Lumoprint" Camera, model MT–1, made in West Germany. This will handle either perforated or nonperforated film.
2. One „Lumoprint" Processor, model MA–6. This will handle both positive and negative film, perforated or nonperforated.
3. One printer „Lumoprint" model FKG. This will handle positive or negative film, perforated or nonperforated. The three machines mentioned above will handle film from 8 mm up to 35 mm.
4. One portable microfilming camera of Italian origin, „Durst," model M–35, for 35 mm perforated film.

5. One „Rank–Xerox," Copier Model 1824, Made in England. This will print enlargements from film on ordinary paper, sizes 65 x 45 mm, 45 x 30 mm and 20 x 30 mm.
6. One machine for photo papers, of West German manufacture AGFA 35/44, model (varioscope).
7. 5 microfilm readers.

Todor TALESKI
Deputy Director
Archives of Macedonia
Skopje (Yugoslavia)

THE MORMON MICROFILMING PROGRAM

Long before the Genealogical Society of the Church of Latter-Day Saints was established in 1894 researchers required genealogical information. Little was done to collect genealogical data and make it available for use until 1938 when the Church of Latter-Day Saints began its extensive microfilming program. A little more than thirty years later nearly 750,000 rolls of master negatives are in the vaults of the Genealogical Society.

The earliest filming was done in the eastern part of the United States. Plans for microfilming records in Denmark were delayed by the beginning of World War II. Soon after the Allied victory in Europe, in 1947, a number of Recordak Model D and E Cameras were purchased and sent to Europe. The Rekolid Company in Sweden began filming in Finland, Sweden, and then in Norway. The Microprint Company began filming in Denmark and National Archives (Kultura) started filming in Hungary. In the meantime the Genealogical Society continued microfilming in the United States and also began microfilming projects in Belgium, Holland, Switzerland, Luxembourg, Great Britain, West Germany, Italy, France, Iceland, Australia, New Zealand, Mexico and Canada. During the late 1960's projects were begun in Argentina, Newfoundland, Guatemala, Austria, and Ireland. Projects are planned for nearly every country as funds and equipment permit.

A major problem since the beginning of the program has been to obtain the cooperation of archivists and records custodians. While all appreciate the need for preserving their records, not all understand the value of microfilm. To help overcome reluctance, the Society will provide a free positive copy in exchange for permission to microfilm vital records. Additional copies, if needed, can always be obtained at cost from the master copy stored in the Granite Mountain Records Vault. To overcome fears of the invasion of privacy and to avoid duplication of current information, cut-off dates have been established. Only the older records – those with information most subject to loss – are microfilmed. Rarely are records less than 100 years old filmed.

Another objection has been voiced by professional genealogists who fear a loss of revenue if information is copied and disseminated. Experience with both genealogical and historical records shows that the more records are disseminated the more valuable professional help becomes. The filming of a few records often whets the appetite of researchers for more information, and may serve as an index or guide to other records. For example, few amateur researchers can read the script used in recording ancestral data. Proof of its existence, however, encourages the use of professional help.

Late in 1960 the Genealogical Society saw that the demand for data from their microfilm records could not be met by their central library alone, despite the large number of microfilm readers available. Funds for many large installations, however, were just not available. Consequently, a plan to develop a number of small self-supporting branch libraries was developed. A microfilm copy of the main library's card catalog file is held by each branch. A patron can search this film for a listing of records containing information

he wants. Using the library call number, he then orders the film he needs. He pays the branch a small service fee which is used to support the facility. After he has used the film it is returned by the branch to the main library.

With this unique system census records, vital statistics, land records, court records, civil records, guild records, military records, and others are being made available. It is thus possible, for example, to make available exact facsimiles of original parish records of Sweden to a greatgrand descendant thousands of miles away. This system has its limitations, of course, but careful training, standarized techniques, and professional workmanship are making a great deal of information accessible on a wide scale to increasing numbers of researchers.

Microfilms of the Genealogical Society as of 31 December 1971

1.	United States	207,548 rolls (100 feet)
2.	Mexico	87,697 rolls
3.	Denmark	67,274 rolls
4.	Great Britain (England, Ireland, Scotland, Wales, Isle of Man)	60,544 rolls
5.	Sweden	60,443 rolls
6.	The Netherlands	52,290 rolls
7.	Germany	43,088 rolls
8.	France	41,058 rolls
9.	Belgium	28,584 rolls
10.	Finland	13,318 rolls
11.	Canada	10,544 rolls
12.	Poland	7,880 rolls
13.	Hungary	7,165 rolls
14.	Norway	6,994 rolls
15.	Austria	5,806 rolls
16.	Guatemala	2,826 rolls
17.	Argentina	2,043 rolls
18.	Switzerland	1,742 rolls
19.	New Zealand	1,458 rolls
20.	Australia	1,418 rolls
21.	Russia	834 rolls
22.	Iceland	765 rolls
23.	Bahamas	608 rolls
24.	Polynesia	540 rolls
25.	Luxembourg	275 rolls
26.	Korea	225 rolls
27.	China	168 rolls
28.	Brazil	95 rolls
29.	Peru	82 rolls
30	Italy	72 rolls

31.	Japan	48 rolls
32.	Chile	13 rolls
33.	Miscellaneous foreign countries	96 rolls
	Total microfilms	713,541 rolls

Note: The number of catalogued rolls will exceed these figures because of divisions made in 100 foot rolls during cataloging.

TOTAL CATALOGUED ROLLS STORED IN GARANITE MOUNTAIN VAULT ... 823,999 rolls.

THE BOOK CRADLE

Special devices or holders are required to microfilm records that are folded, creased, or bound in volumes. One of the most useful of these is the book cradle.

While some volumes may be opened so that facing pages are on a even plane to permit filming with little or no difficulty most volumes are not so constructed and are difficult to film. This is especially true when volumes are unusually large or thick, when the stitching is tight, or when the writing lines are close to the inner margin or gutter.

The improvised book holder shown in illustration 1 consists of a sheet of glass and foam rubber padding which is used to bring facing pages of a bound volume into a level plane and thus permit satisfactory microfilming.

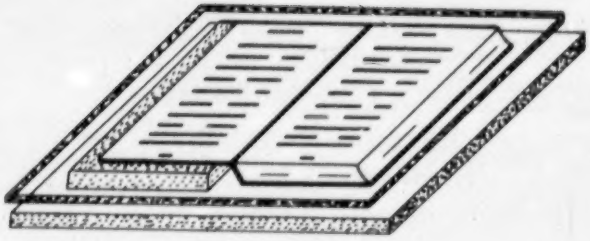
A more sophisticated and more effective device is shown in illustration 2. This book cradle can be built by a skilled workman is only a few hours and should, if not abused, give many years of service. The box is constructed of poplar wood painted a flat black. The foam rubber cushions and book rest are also dyed or painted a flat black. The cradle measurements may vary but should not exceed 4 1/2" in depth for those using the MRD 2 Camera. Other flat bed cameras may take cradles of greater depth. In constructing the top of the cradle care should be taken to see that the 1/4" plate glass is evenly and securely mounted into the frame. Several strong hinges or a piano hinge are used to fasten the top to the bottom of the cradle. Each side of the bottom part of the cradle should contain rounded holes measuring about 6" wide and 2 1/2" deep to permit the camera operator's hands to reach the book being filmed. The operator may then adjust the facing pages of the volume to see that they are straight and uncrumpled before they are photographed. When the writing lines of the volume being filmed extend into the gutter or when the volume is tightly bound the camera operator should be able to insert one or more of a number of wooden dowels ranging in circumference from 1/8" to 1 1/2" between the backstrip and the binding of the volume. The dowels, when inserted, will bring the gutter of the volume up towards the plane made by the facing pages and enable the camera operator to successfully reproduce the ends of the writing lines extending into the binding. Some care and judgement is required by the camera operator in this process to prevent breaking of the binding. Fortunately the stitching of most volumes permits use of this technique without danger. These dowels, either painted or dyed a flat black, should have their ends rounded and smooth. They should, for the book cradle illustrated, not exceed 20" in length.

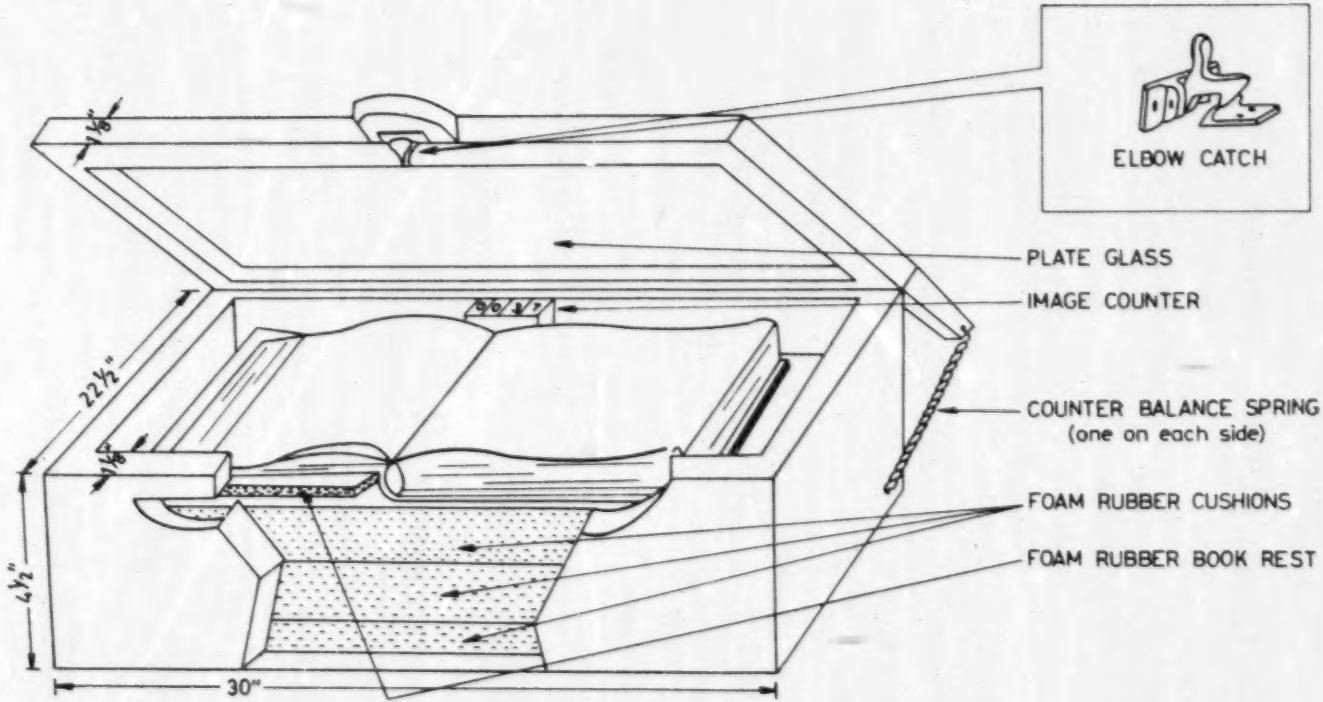
One of the best features of the book cradle shown is the „Elbow Catch." With this catch the top of the cradle when lowered onto the bottom holds shut. It is easily released and the top is raised with the pressure of one's finger.

Most of the materials required for constructing the book cradle illustrated are readily available. Those that may be more difficult to obtain are:

1. The elbow catch. Shown is the Ives Elbow Catch Number 2F3 which is manufactured by H. B. Ives Company, New Haven, Connecticut. It is recommended that several replacement catches be ordered.
2. The counter balance springs (two are required). Those shown are G–12 springs manufactured by the Raymond Manufacturing Company, Corry, Pennsylvania 16407.
3. The image counter shown (Durant, Model 6–CSI–MF) is manufactured by the Durant Manufacturing Company, N. Buffam Street, Milwaukee, Wisconsin.

National Archives
Washington, D.C. (U.S.A.)




ELBOW CATCH
PLATE GLASS
IMAGE COUNTER
COUNTER BALANCE SPRING
(one on each side)
FOAM RUBBER CUSHIONS
FOAM RUBBER BOOK REST
1⅛"
22½"
1⅛"
4½"
30"

SALVAGING MICROFILM IN THE UNITED STATES GREATEST STORM

Probably the most severe storm in the history of the United States was Hurricane Camille which struck the Gulf Coast of Louisiana and Mississippi in the fall of 1969 with winds as high as 210 miles an hour. Waves 22 feet high crashed freighters ashore. The storm proceeded northward smashing houses and automobiles, leveling concrete buildings and other structures, causing torrents of rain that flooded areas as far north as Virginia, and taking a toll of lives in the hundreds.

One of the results of this hurricane was the flooding of tens of thousand of feet of microfilm stored in various banks and industrial establishments. Fortunately, prompt restoration measures were taken by Kodak Microfilm Laboratores that resulted in the salvaging of about 95 percent of the microfilm.

The procedures that were used should be of interest to archives the world over. Microfilm that has been flooded can be restored if prompt action is taken. The most important action to take in case of flooding of microfilm is to keep the microfilm wet. Once film dries it will stick together. Then the emulsion will either pull off or the film will tear if one tries to use it. For this reason those having film that was flooded were advised to quickly immerse the containers of flooded film in new garbage or milk cans filled with water. These containers were then taken as promptly as possible to the nearest Kodak microfilm processing laboratory.

At the laboratories the treatment of the flood damaged film involved two basic steps: rehardening the emulsion and washing to remove dirt and grime. Standard microfilm processing machines with normal process chemistry replaced with special chemicals were used for this purpose. The hardener is usually an acetic acid-sodium sulfate type similar to Kodak Stop Bath SB–5A the formula for which is:

Water	500 ml.
Kodak Acetic Acid 28%	64 ml.
Kodak Sodium Sulfate, dessicated	45 grams
Water, to make	1 Liter

In cases of extreme emulsion softness a 10 percent formaldehyde solution is substituted for the SB–5A solution. As formaldehyde is extremely irrating to the eyes and skin it should be handled with care in well ventilated areas. Some flooded film required special wash treatment to remove a clay like silt that tends to cling tenaciously to the film surfaces. Careful wiping of both base and emulsion surfaces with photographic grade chamois skin or sponges following presoaking in an alkaline detergent solution produced excellent results. Kodak used Soilax as the detergent at the rate of about one ounce to a liter of water.

After the microfilm was washed it was then airbuffed and dried, put on new reels, and repacked in new microfilm boxes.

Once the work had been completed care was taken to thoroughly clean the processing equipment with wash water and chlorine to eliminate the fungi, salt, and dirt left behind by the special treatment process.

[*The above article is based on „Microfilm Survives Nation' s Greatest Storm," which appeared in Eastman Kodak's „Panorama" (Vol. 4 No. 6, November–December 1969) as well as on additional technical data. Permission to print this material was given by the Kodak Company.]

CAUSE AND PREVENTION OF MICROFILM BLEMISHES

A comprehensive study, by C.S. McCamy and C.I. Pope of the National Bureau of Standards (NBS) Institute for Basic Standards (U.S. Department of Commerce), has revealed that gases evolved from paper and paper-lined storage cartons are responsible for the formation of blemishes on processed microfilm.[1] Displacement of image silver has been pin-pointed to an oxidation-reduction reaction caused by peroxide and other gases. The blemishes have become known, therefore, as „redox blemishes". Fortunately, the study has also indicated that simple precautionary measures may be taken to eliminate redox blemishes.

Several years ago, there were reports of the formation of spots or blemishes on processed microfilm. As a great deal of information is stored on microfilm, this was cause for alarm among film manufacturers, archivists, Government agencies, and other records-keeping concerns. The extent of the concern is illustrated by the number of agencies that sponsored the research to solve the problem. These were the National Archives and Records Service, the Library of Congress, the Social Security Administration, the Navy Bureau of Weapons, and the Adjutant General's Office of the Department of the Army. In addition, the National Microfilm Association solicited and secured financial support from the Bell and Howell Company, E.I. DuPont de Nemours and Company, Dynacolor Corporation, International Business Machines, Minnesota Mining and Manufacturing Company, Recordak Corporation, University Microfilms, and Xerox Corporation.

When it became apparent that blemish formation was a widespread problem, a field survey[2] was conducted in which 100 trained inspectors examined over 7400 roles of microfilm in different Government agencies. More than 370 000 observations were recorded and then statistically analyzed at NBS. Among the findings of the survey were: blemishes existed in 6 different types; blemish formation was more severe in humid storage areas; films stored in metal containers were practically blemish free; films stored in air-conditioned areas were less prone to blemish; and, when there were no leaders on the film rolls, blemish formation was 2 to 3 times as severe as when film rolls had leaders of approximately 1,5 meters.

These factors tended to confirm the theory that products evolved from the paper storage cartons were responsible for blemish formation. Hydrogen peroxide is evolved as paper degrades and the rate of this reaction increases with the concentration of hydrogen peroxide. To simulate this natural storage condition in the laboratory, paper was immersed in a 5 percent hydrogen peroxide solution for thirty minutes, dried, and then sealed in jars with specimens of films at approximately 80 percent relative humidity. These films developed all the naturally occuring blemishes within 30 days.

1. McCamy, C.S., and Pope, C.I., Redox blemishes, their cause and prevention, presented at the National Microfilm Association Meeting held May 7, 1969, Boston, Mass.
2. McCamy, C.S., Wiley, S.R., and Speckman, J.A., A survey of blemishes on processed microfilm, J. Res. Nat. Bur. Stand. (U.S.), *73A*, 79 (1969).

While this apparently confirmed the theory of peroxide induced blemish formation, other observations were not explained. Studies elsewhere,[3] for example, had revealed that films fixed in solutions containing small concentrations of iodide ions resisted blemish formation in actual storage. Such films, however, did form blemishes in laboratory exposures to peroxide-treated paper. This suggested that factors other than peroxide were involved.

Further laboratory work was undertaken, which revealed that formaldehyde and formic acid were also evolved from the paper cartons. This work emphasized the fact that the susceptibility of films to blemish formation in the presence of peroxide is conditioned by other factors.

The silver grain, as formed in the gelatin matrix during development, is inherently unstable. In the normal photographic process, silver filaments become coated with sulfur atoms during fixation. It is this coating that stabilizes the grain structure. Films fixed a relatively long time and films retaining a small amount of hypo after washing acquire more sulfur and have been found to be quite resistant to blemish formation when they are exposed to peroxides, even at high humidity.

It was also found that when silver is oxidized and reduced in the presence of chloride ions, the reduced silver becomes incorporated with silver chloride in a colloidal form. Laboratory demonstrations have shown that a reddish colored colloidal silver is formed by the reaction of hydrogen peroxide with pure metallic silver in the presence of a small concentration of chloride ions. The charasteristic color of the blemishes has been attributed to the presence of this colloidal material.

This suggested an investigation into the effects of chlorine in the wash water on film stability. It was found that films washed in distilled water were faded by peroxide attack but typical blemishes did not form. A small concentration of chlorine, therefore, appears to be essential for formation of typical blemishes.

To study also revealed that the incidence of spots increased with the optical density of the image. In one experiment, a step tablet exposed to peroxide-treated paper developed blemishes on all steps having densities of 0.58 or more; none however, formed at densities of 0.43 or less. The incidence of blemish formation also increased for each step above 0.58.

While the differences in blemishing on various brands of film were not significant, the processing equipment was found to be an important factor. In fact, the formation of blemishes on film processed by a particular machine so out-weighed the other statistics in the survey that it became necessary to run a second analysis without these data. Fortunately, this type of machine is no longer on the market.

Results of the study have indicated several precautionary measures that may be taken to prevent blemish formation:

1. Use safety base permanent record film as specified in the American National Standards Institute (ANSI formerly USASI) specifications for photographic films for permanent records.
2. Use no higher densities than are required for the intended purposes and use dark characters on a light background if this is feasible.

3. Henn, R.E., Wiest, D.G., and Mack, B.D., Microscopic spots in processed microfilm: the effects of iodide, Phot. Sci. Eng. *9*, 121 (1965).

3. Residual thiosulfate concentration should not exceed 1 microgram per square centimeter, but should be greater than zero. The optimum concentration appears to be about 0.5 microgram per square centimeter in a clear area.
4. Keep processing machinery and film clean.
5. Avoid scratching film.
6. Store films in containers made of inert materials, such as metals or plastics of proven quality. With good ventilation and clean air, the containers need not be sealed.
7. Do not permit storage temperature to exceed 70 °F nor the relative humidity to exceed 40 percent.
8. Avoid wide-range cycling of temperature and humidity, since this accelerates the imbibition of gaseous contaminants.

Technical News
U.S. Department of Commerce
National Bureau of Standards
March 1970 – STR–3910

AVANT–PROPOS

Depuis les trente dernières années, le microfilmage est devenu en Europe un procédé indispensable à l'activité archivistique. La coïncidence du début de cette période avec le déclenchement de la seconde guerre mondiale fit que le microfilmage fut envisagé avant tout sous l'angle de la sécurité. Tout en gardant ce rôle, l'importance du microfilmage comme moyen d'accès aux documents est allé sans cesse en croissant. Chaque pays a besoin des expériences des autres lorsqu'il est question de créer ou de développer son service de microfilm, qu'il s'agisse de l'application des techniques nouvelles ou des méthodes archivistiques de préparation des opérations de microfilmage.

Le Conseil International des Archives a entendu servir l'intérêt de tous les pays-membres en créant le Comité de Microfilmage. Celui-ci s'est assigné, en effet, comme tâche primordiale, de diffuser au niveau international les expériences et les résultats acquis dans le domaine en question. Le présent Bulletin n'est qu'un des instruments forgés dans ce but.

Je tiens à exprimer ici toute ma reconnaissance aux articles et compte-rendus publiés ci-après ainsi qu'à tous ceux qui, de façon tout aussi désintéressée, m'ont aidé à faire paraître le présent Bulletin.

Budapest, le 21 avril 1972

Dr. Iván BORSA
Secrétaire, Comité de Microfilmage
Budapest (Hongrie)

Il m'est particulièrement agréable de remercier ceux à qui l'on doit les résumés espagnols et la plupart des résumés français des articles, et de cet avant-propos, notamment Mlle Carmen *Crespo* (Madrid) et M. Cristian *Gut* (Paris).

EL COMITÉ DE MICROFILM DEL CONSEJO INTERNACIONAL DE ARCHIVOS

El actual Comité de Microfilm es efectivamente la continuación del que fué creado después del Congreso extraordinario del CIA celebrado en Washington en 1966. Se da una reseña de las realizaciones de ambos Comités. Se pone especial énfasis en los propósitos del Comité de Microfilm de procurar consejo y asistencia a cuantos archivos deseeen establecer, ampliar o mejorar su política de microfilmación. El Comité actua como vehículo de información de los paises miembros para intercambio de datos y conocimiento de nuevas técnicas. Propugna una mayor liberalización en la politica de accesibilidad por medio del microfilm y, sobre todo, de las publicaciones en microfilm. Forman el Comité 35 miembros correspondientes. El Secretario ejecutivo del CIA en Paris, asi como el Presidente y el Secretario del Comité de Microfilm pueden proporcionar copias del Boletin editado por el Comité y de la Microfotografía para Archivos.

(A.H. LEISINGER, Jr.) p. 5

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CONSULTATION COLLECTIVE POUR METTRE AU POINT LES DIRECTIVES DE LA POLITIQUE DE L'UNESCO VISANT L'ENCOURAGEMENT DES ARCHIVES

(d) L'importance d'encourager le lancement de programmes plus vastes de microfilmage d'archives, et cela, non seulement pour accélérer l'échange des microfilms, mais aussi pour stimuler les programmes de classement et d'inventaire des documents, opérations nécessairement préalables à la publication des microfilms.

p. 16

LE MICROFILMAGE AUX ARCHIVES PUBLIQUES DU CANADA

En usage depuis 1950 environ aux Archives publiques du Canada, le microfilm s'est implanté rapidement au point que la Division des manuscrits compte, à elle seule 15,000 bobines négatives et 23,500 positives. Ces bobines proviennent tant du Canada que de l'étranger, surtout de France et de Grande-Bretagne. Un catalogue des fonds microfilmés et un fichier topographique indiquant le contenu de chaque bobine constituent les deux principaux instruments de recherche et de contrôle de cette riche collection. Chaque bobine négative reçue est immédiatement vérifiée, puis cotée. Les copies positives ne sont exécutées qu'après cette vérification. Après étiquetage de la boîte contenant la bobine, on y insert une fiche de circulation. Les négatifs sont conservés dans une pièce distante des magasins et ne sont jamais communiqués au public.

(W.I. SMITH) p. 17

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10 ANS DE MICROFILMAGE DE SÉCURITÉ DANS LA RÉPUBLIQUE FÉDÉRALE D'ALLEMAGNE

Le Comité technique photographique créé par les Länder de la R.F.A. a commencé son activité en 1955. Il lui incombait de déterminer les matériaux archivistiques qui devaient faire l'objet d'opérations de microfilmage de sécurité, ainsi que le coût de celles-ci. – Ces matériaux ont été classés en 3 groupes de priorité dont le premier seul (représentant environ 625.000.000 de prises de vue) a pu être pris en considération. Après plusieurs années de travail, le Comité a pris pour base les résultats moyens des Archives Générales d'État de Bavière soit environ 1.000.000 à 1.300.000 de prises de vue par an et par appareil. – Le

programme de microfilmage de sécurité a démarré en 1961, dans tous les dépôts interessés à l'exception d'un seul, et dans des conditions techniques équivalentes (prises de vue en 35 mm notamment). A la fin de 1970, on a enrégistré environ 146.000.000 de vues soit un peu moins d'un quart du matériel classé dans le 1er groupe. Il était évident, dès le départ, qu'un délai de 10 ans était insuffisant pour mener à bien un tel programme. Comment dans ces conditions poursuivre le programme entrepris? – Comme les avis sont partagés quant à l'attribution des priorités, et comme chaque dépôt d'archives présente un cas particulier, la meilleure solution semblerait consister à laisser au service concerné le choix des documents destinés au microfilmage. – En tout état de cause, il est clair qu'il faut viser au microfilmage de fonds entiers et non de pièces choisies. – L'évolution de la technique photographique posera du reste bientôt aux services d'archives les problèmes de stockage, de conservation, et de mises en valeur des microfilms. – Ces services doivent être conscients de ces faits et de ce que la conservation et l'utilisation du matériel archivistique microfilmé prendra de plus en plus d'importance dans les années à venir.

(J. HEMMERLE) p. 20

ÉCHANGES BILATÉRAUX DE MICROFILMS (L'EXPÉRIENCE HONGROISE)

Par suite des traits spécifiques de l'histoire de l'Europe Centrale, la recherche historique et le travail archivistique sont tributaires dans chaque pays des matériaux archivistiques conservés dans les pays voisins. Afin de répondre à des besoins réciproques et continuels, les institutions d'archives des différents pays concluent assez fréquemment des contrats d'échange. C'est par de tels contrats que passe la moyenne partie du trafic de microfilms d'archives dans les pays concernés. L'auteur décrit, à partir de l'expérience des Archives de Hongrie, cette organisation d'échange de microfilms. (Dans le cadre ci-dessus défini, les Archives de Hongrie ont envoyé en 1971 à l'étranger 107.280 prises de vue et en ont reçu 78.412. Le trafic total des échanges de microfilms correspond donc à 185.692 prises de vue.)

(I. BORSA) p. 25

MICROFILMAGE D'ARCHIVES EN INDE

Les Archives nationales de l'Inde ont entrepris, il y a une dizaine d'années, dans un laboratoire improvisé, le microfilmage de sécurité de leurs documents antérieurs à 1857. Les progrès ont été très lents en raison de l'équipement insuffisant et de la pénurie de pellicules. Les films produits répondent aux normes archivistiques, quant à la durée. Dans le cadre du plan quinquennal en cours, on se propose d'ajouter aux Archives nationales, pour abriter le service reprographique, un bâtiment bien étudié, entièrement climatisé et pourvu de l'équipement nécessaire. Cela nous permettra d'accélerer nos programmes et de servir promptement et efficacement les chercheurs. Les Archives d'Etat établissent également des unités de microfilmage et entreprennent des programmes similaires en ce qui concerne leurs propres collections. Peu d'entre elles disposent des moyens financiers nécessaires à l'établissement de locaux permettant le stockage permanent de microfilms. Aussi la solution est-elle, peut-être, dans la création de centres régionaux de stockage. Il y a lieu également d'organiser des stages nationaux sur le problème du microfilmage des archives, de manière à permettre l'échange des expériences ainsi qu'une meilleure coordination des activités.

(R.C. GUPTA) p. 28

THE SPANISH NATIONAL MICROFILM SERVICE

This Service was created as the „Central Microfilm Archive" by a decree of July 14, 1950. A dependency of the General Directorate of Archives and Libraries its mission was to assist research and to guarantee the safekeeping of documental and bibliographical collections.

The decree of June 27, 1952, renamed it the National Microfilm Service. This same decree created the National Service of Documental and Bibliographical Information for the purpose of developing the „Catalog of the Bibliographical and Documental Treasure of Spain."

In 1953, the first Information Bulletin of the National Microfilm Service was published. The aims of the Service, as stated in the Bulletin, are: to reproduce in photographs the archives most important for the history of the nation, to facilitate historical research by making its photographic reproductions available to scholars, and to equip with photographic laboratories the most important of the archives dependent on the General Directorate of Archives and Libraries.

By means of the periodic publication of bulletins, the Service has been reporting on its progress in microfilming the medieval sources existing in national as well as in municipal, ecclesiastic, and private archives and libraries.

At the present time the Service has begun publication on microfilm of manuscript sources for the history of America and has started producing microfich of rare printed sources for the history of Spain.

Its files now contain approximately three million exposures.

(C. CRESPO) p. 31

BUNDESARCHIV DER SCHWEIZ

Das Bundesarchiv der SCHWEIZ verfügt über kein Mikrofilmlaboratorium. Der diesbezügliche Bedarf des Archivs wird vom Laboratorium der Bundeskanzlei befriedigt, der der Forscher von Privatunternehmen zufriedengestellt. Bei letzterem werden auch Xerox- und Photokopien verfertigt.

(O. GAUYE) p. 33

LA MICROFILMACIÓN EN LOS ARCHIVOS DE MACEDONIA

Los archivos de la República Socialista de Macedonia utilizan el microfilm para sustituir los documentos que fueron destruidos o llevados fuera de Macedonia, esenciales para el conocimiento de la historia del país. También se usa el microfilm con fines de seguridad. Durante el proceso de microfilmación se respeta la ordenación de los documentos. El valor de la microfilmación se puso de manifiesto inmediatamente después del terremoto de Skopje.

Se dan en el artículo gráficos de producción de microfilm y una lista de los aparatos que forman el equipo de microfilmación de archivo.

(T. TALESKI) p. 34

LE PROGRAMME DE MICROFILMAGE MORMON

En 1938 la Société Généalogique de l'Eglise de Jésus-Christ des Saints des Derniers Jours, S.A., entreprit un programme pour faire plus disponibles des renseignements généalogiques. Cet article peint l'opération, les problèmes rencontrés et des avantages du système. Il nomme aussi les pays compris jusqu'ici avec une indication du volume des renseignements enregistrés. Il devrait intéresser surtout les lecteurs qui s'occupent de l'emmagisinage et l'exploitation de vastes quantités de renseignements techniques, historiques ou généalogiques.

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CUNA PARA LIBROS

Se describen en este artículo los más sencillos recipientes que son necesarios para microfilmar documentos plegados, con marcas de dobleces o encuadernados y se dan instrucciones y una lista de los materiales precisos para construirlos.

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SALVAMENTO DE MICROFILMS EN LA TORMENTA MAS GRANDE DE LOS ESTADOS UNIDOS

Este artículo describe los métodos usados para salvar decenas de miles de pies de microfilm que fueron dañados en las inundaciones causadas por el huracán Camila, la peor tormenta en la historia de los Estados Unidos. Se tomaron rápidas medidas para conservar el film mojado, reendurecer la emulsión del film y para volver a lavarlo a fin de remover las impurezas y suciedad. Se describen los procedimientos que fueron utilizados. El 95% del film inundado fué salvado con éxito.

p. 43

CAUSA Y PREVENCION DE LAS IMPERFECCIONES DEL MICROFILM

The National Bureau of Standards (U.S.A.) ha estudiado la causa y modo de evitar las imperfecciones del microfilm. El estudio ha demostrado que las imperfecciones se originan por una reacción de reducción de oxidación de la imagen de plata por peróxidos y otros productos gaseosos desprendidos por la degradación del papel almacenado en cajas de cartón. Como resultado del estudio se indican medidas para evitar las imperfecciones del microfilm.

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